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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,608	03/24/2006	Kevan M. Shokat	71332.00301.UTL1	1119

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EXAMINER	
KIM, ALEXANDER D	

ART UNIT	PAPER NUMBER
1656	

MAIL DATE	DELIVERY MODE
02/05/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,608	SHOKAT ET AL.	
	Examiner	Art Unit	
	Alexander D. Kim	1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) *8-32* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: Trypsin and Chymotrypsin, Notice to Comply.

DETAILED ACTION

Application Status

1. Claims 1-32 are pending in this instant case.

Election

2. Applicant's election without traverse of Group I, Claims 1-7, is acknowledged. Claims 8-32 are withdrawn from consideration as non-elected inventions.

Applicant elected species "phosphorylation" for Claim 2 and "tyrosine" for Claim 3, is acknowledged. Thus, Claim 4 is withdrawn from the consideration as a non-elected invention.

Claims 1-3 and 5-7 will be examined herein.

Priority

3. The instant application is a 371 filing of the International Application No. PCT/US03/25456 filed on 08/14/2003, which claims benefit of 60/405,589 filed on 08/14/2002 as requested in the declaration. The Examiner notes that the requirements of national stage entry of the instant application had been completed (note assigned U.S. filing date) within 30 months of the earliest claimed priority date; the related international application includes both a search report and a preliminary examination report.

Applicant's claim no foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

4. No information disclosure statement (IDS) has been filed in the instant application.

Compliance with Sequence Rules

5. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 C.F.R. §1.821(a)(1) and (a)(2). However, this application fails to fully comply with the requirements of 37 C.F.R. 1.821 through 1.825; Applicants' attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990).

Figures 1, 2, 7 and 8 teach an amino acid or nucleic acid sequence. Labeling using a SEQ ID No. must be inserted into the brief description of the drawings or into the Figure directly.

The instant specification disclose amino acid sequences (i.e., Phe-Arg-Pro-Xxx-Gly-Phe on page 42, line 14; and Ala-Ala-Pro-Xxx on page 42, line 20; and as well as Figure 5 disclosing the same polypeptides), which require appropriate SEQ ID NOs.

If the noted sequences are in the sequence listing as filed, Applicants must amend the specification to identify the sequences appropriately by SEQ ID NO. If the noted sequences are not in the sequence listing as filed, Applicants must provide (1) a substitute copy of the sequence listing in both computer readable form (CRF) and paper copy, (2) an amendment directing its entry into the specification, (3) a statement that the

content of the paper and CRF copies are the same and, where applicable, include no new matter as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.821(b) or 1.825(d), and (4) any amendment to the specification to identify the sequences appropriately by SEQ ID NO.

Objections to the Specification

6. The specification is objected to because of the following informalities:

The specification is objected to because the title is not descriptive of the claims. A new title is required that is clearly indicative of the invention to which the claims are drawn (see M.P.E.P. § 606.01). The examiner suggests the following new title, for example: ---Method of proteome-wide mapping of post-translational modifications using endopeptidase---

Objections to the Drawing

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "Figure. 1" labeling is missing in the drawing. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each

drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-7 are rejected under 35 U.S.C. § 112, first paragraph, written description, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The instant claim 1 is drawn to a method for mapping a site of post-translational modification on a post-translationally modified polypeptide, said method comprising: (a) site-specifically cleaving a peptide bond of the post-translationally modified polypeptide with an endopeptidase at said site of post-translational modification to produce a degraded post-translationally modified polypeptide; and (b) after step (a), determining

said site of post-translational modification. Claims 2-7 are drawn to a method of Claim 1 with additional limitation(s) as disclosed in the claims.

The Court of Appeals for the Federal Circuit has recently held that a "written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as be structure, formula [or] chemical name,' of the claimed subject matter sufficient to distinguish it from other materials." *University of California v. Eli Lilly and Co.*, 1997 U.S. App. LEXIS 18221, at *23, quoting Fiers v. Revel, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) (bracketed material in original). To fully describe a genus of genetic material, which is a chemical compound, applicants must (1) fully describe at least one species of the claimed genus sufficient to represent said genus whereby a skilled artisan, in view of the prior art, could predict the structure of other species encompassed by the claimed genus and (2) identify the common characteristics of the claimed molecules, e.g., structure, physical and/or chemical characteristics, functional characteristics when coupled with a known or disclosed correlation between function and structure, or a combination of these (paraphrased from *Enzo Biochemical Inc. v. Gen-Probe Inc.* (CAFC (2002) 63 USPQ2d 1609).

University of Rochester v. G.D. Searle & Co. (69 USPQ2d 1886 (2004)) specifically points to the applicability of both *Lily* and *Enzo Biochemical* to methods of using products, wherein said products lack adequate written description. While in *University of Rochester v. G.D. Searle & Co.* the methods were held to lack written description because not a single example of the product used in the claimed methods was described, the same analysis applies wherein the product, used in the claimed

methods, must have adequate written description as noted from *Enzo Biochemical* (see above).

The instant specification teach a method for mapping a site of post-translational modification (that is phosphorylation of Tyr residue) in a polypeptide (wherein the polypeptide have C-terminal side of peptide bond of Tyr amino acid that is substrate of subtilisin) comprising: cleaving said modified peptide by the mutant subtilisin with a double substitution (i.e., point mutations of the subtilisin with PDB code of 1SUA having mutations: P129G/E156R or G127S/E156R, for example) which cleaves phosphorylated tyrosine (wherein the cleavage occurs in the carboxylic side of the tyrosine as disclosed in paragraph 0157 on page 42). However, the breadth of claim includes a method comprising: cleaving any polypeptide having any post-translation modification with any endopeptidase having a site-specific cleavage that is characteristic of any endopeptidase (including but not limited to any mutant endopeptidase or variant endopeptidase thereof) as long as it produces a discrete set of fragment from the modified polypeptide. The prior art by Bell et al. (2000, J. Neurochem., Vol. 75, pages 2006-2019) teach a method for mapping a site of post translational phosphorylation of polypeptide comprising a site specific cleavage and determination of said site of phosphorylation, wherein the method of Bell et al. is encompassed by very widely varying claimed genus method as disclosed by the breadth of the claims above. The specification discloses a method for mapping a site of post-translational phosphorylation of tyrosine by a mutant subtilisin (i.e., P129G/E156R or G127S/E156R double mutants)

which specifically cleaves the c-terminal side of peptide bond in the modified polypeptide. However, a method of instant specification and prior arts do not describe claimed genus method of using cleaving at the site of any post-translational modification by any endopeptidase (including but not limited to any mutant or variants thereof) for mapping the site of modification sufficiently to represent the correlation between the structure (of modified polypeptide; or endopeptidase and any variants thereof) and function of cleaving the site of the modification. Thus the instant specification and the prior art cannot describe a method comprising very widely varying genus and one skilled in the art would not be in possession of the full scope of claimed genus by the instant disclosure.

8. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, scope of enablement, because the specification, while being enabling for a method for mapping a site of post-translational phosphorylation of Tyr residue in a polypeptide (wherein the polypeptide have C-terminal side of peptide bond of Tyr amino acid that is substrate of subtilisin) comprising: cleaving said modified peptide by the mutant subtilisin with a double substitution (i.e., point mutations of the subtilisin with PDB code of 1SUA having mutations: P129G/E156R or G127S/E156R, for example) which cleaves phosphorylated tyrosine (wherein the cleavage occurs in the carboxylic side of the tyrosine as disclosed in paragraph 0157 on page 42); does not reasonably provide enablement for a method comprising: cleaving any polypeptide having any post-translation modification with any endopeptidase (including but not limited to any mutant endopeptidase or variant

endopeptidase thereof) having a site-specific cleavage that is characteristic of any endopeptidase as long as it produces a discrete set of fragment from the modified polypeptide.

The specification does not enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and use of the invention commensurate in scope with these claims.

The factors to be considered in determining whether undue experimentation is required are summarized *In re Wands* 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988). The Court in Wands states: "Enablement is not precluded by the necessity for some experimentation such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' " (Wands, 8 USPQ2d 1404). Clearly, enablement of a claimed invention cannot be predicated on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." (Wands, 8 USPQ2d 1404). The factors to be considered in determining whether undue experimentation is required include: (1) the quantity of experimentation necessary, (2) the amount or direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. While all of these factors are considered, a sufficient amount for a *prima facie* case are discussed below.

The nature of the invention is drawn to a method for mapping a site of post-translational modification (that is phosphorylation of Tyr residue) in a polypeptide (wherein the polypeptide have C-terminal side of peptide bond of Tyr amino acid that is substrate of subtilisin) comprising: cleaving said modified peptide by the mutant subtilisin with a double substitution (i.e., point mutations of P129G/E156R or G127S/E156R from the subtilisin with PDB code of 1SUA, for example) which cleaves phosphorylated tyrosine (wherein the cleavage occurs in the carboxylic side of the tyrosine as disclosed in paragraph 0157 on page 42). However, the breadth of claim includes a method comprising: cleaving any polypeptide having any post-translation modification with any endopeptidase having a site-specific cleavage that is characteristic of any endopeptidase (including but not limited to any mutant endopeptidase or variant endopeptidase thereof) as long as it produces a discrete set of fragment from the modified polypeptide. Applicants teach a method comprising the cleavage of fluoregenic substrate polypeptide Abz-Phe-Arg-Pro-Xxx-Gly-Phe-Y(NO_2)-Asp (see page 42, line 14) using the mutations subtilisin (i.e., P129G/E156R or G127S/E156R). However, applicants disclose no direction or guidance on how to make and use any endopeptidase for the method of mapping any post-translationally modified polypeptide with unlimited amino acid sequence limitation. Thus, the specification and prior art fail to describe how to make and use the full scope of claimed genus (as described in the breadth of claims above) sufficiently. Therefore, it is unpredictable for a method comprising any endopeptidase site specifically cleaving any modified polypeptide, wherein it is unpredictable to know if the modified polypeptide can be a

substrate for said endopeptidase, especially at the site of modification. Thus, it is unpredictable for the claimed genus method and one skilled in the art would not be able to make and use the full scope of claims. The said unpredictability makes the relative skill required in the art very high. For all of the above reason, it would require undue experimentation necessary for claimed genus described above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by reference by Bell et al. (2000, J. Neurochem., Vol. 75, pages 2006-2019).

The instant claim 1 is drawn to a method for mapping a site of post-translational modification on a post-translationally modified polypeptide, said method comprising: (a) site-specifically cleaving a peptide bond of the post-translationally modified polypeptide with an endopeptidase at said site of post-translational modification to produce a degraded post-translationally modified polypeptide; and (b) after step (a), determining said site of post-translational modification. Claims 2-6 are drawn to a method of Claim 1 with additional limitation(s) as disclosed in the claims.

Bell et al. teach a method of identifying Tyr142 in retina photoreceptor rod outer segments (ROS) protein by ion trap mass spectrometry after trypsin (i.e., a serine protease, see Trypsin and Chymotrypsin in the attachment) digestion as disclosed under the method step "Sequencing of proteolytic tryptic fragments from Tα phosphorylated by Src" (bottom right column, page 2008). The tryptic digestion step by Bell et al. produced a discrete fragment of polypeptide as shown in Figure 9A; thus, the tryptic digestion step of Bell et al. meets the limitation of "site-specifically cleaving a peptide bond of the post-translationally modified (i.e., phosphorylated) with an endopeptidase", wherein "to produce a degraded post-translationally modified polypeptide" is intended which do not contribute to a method step. Because the term "said site" refers to "site-specifically cleaving a peptide bond" recited earlier in the claim 1 (which encompassed digesting any peptide bond of post-translationally modified polypeptide with an endopeptidase), the recitation of "at said site of post-translational modification" in Claim 1 or "to said site of post-translational modification" in Claim 6 encompass any specific site including but not limited to a site of tryptic cleavage of protein or polypeptide containing a site of post-translational modification. Thus, the site cleaved by trypsin in the polypeptide of Bell et al. meets the limitation of cleavage "at said site of post-translational modification" in Claim 1 or "at said site of post-translational modification" in Claim 6. Bell et al. teach a sequencing degraded polypeptide and concluded that "a phosphopeptide fragment representing amino acid Ala^{139}-Arg^{157} - - - found to be phosphorylated at Tyr^{142}" (see top of left column, page 2015); thus, meeting the step of "determining said site of post-translational modification". Therefore, the

method of Bell et al. comprising: tryptic digestion, sequencing digested peptide by mass spectrometer and identifying Tyr^{142} meet the limitations of Claim 1-3 and 5-6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell et al. (2000, J. Neurochem., Vol. 75, pages 2006-2019) in view of Tremblay et al. (1996, The Journal of Biological Chemistry, vol. 271, pages 21075-21080).

Bell et al. teach a method of identifying Tyr142 in retina photoreceptor rod outer segments (ROS) protein by ion trap mass spectrometry after trypsin (i.e., a serine protease, see Trypsin and Chymotrypsin in the attachment) digestion as disclosed under the method step "Sequencing of proteolytic tryptic fragments from Tα phosphorylated by Src" (bottom right column, page 2008). The tryptic digestion step by Bell et al. produced a discrete fragment of polypeptide as shown in Figure 9A; thus, the tryptic digestion step of Bell et al. meets the limitation of "site-specifically cleaving a peptide bond of the post-translationally modified (i.e., phosphorylated) with an endopeptidase", wherein "to produce a degraded post-translationally modified polypeptide" is intended which do not contribute to a method step. Because the term "said site" refers to any site of specific cleavage by any endopeptidase, the recitation of

"at said site of post-translational modification" in Claim 1 or "to said site of post-translational modification" in Claim 6 encompass any specific site including but not limited to a site of tryptic cleavage of protein or polypeptide containing a site of post-translational modification. Bell et al. teach a sequencing degraded polypeptide and concluded that "a phosphopeptide fragment representing amino acid Ala^{139}-Arg^{157} - - - found to be phosphorylated at Tyr^{142}" (see top of left column, page 2015); thus, meeting the step of "determining said site of post-translational modification". Therefore, the method of Bell et al. comprising: tryptic digestion, sequencing digested peptide by mass spectrometer and identifying Tyr^{142} meet the limitations of Claim 1-3 and 5-6.

Bell et al. do not teach the method comprising a digestion of protein or polypeptide with subtilisin.

Tremblay et al. teach a method of peptide sequencing by electrospray mass spectrometry by digesting a protein with trypsin and subtilisin (see Protease Digestion on page 21076, right column, line 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Bell et al. for mapping a site of post-translational modification (i.e., phsophorylation on Tyr) in a polypeptide by mass spectrometry after digesting said modified polypeptide with subtilisin digestion instead of trypsin digestion as taught by Tremblay et al. with a reasonable expectation of success to map the because subtilisin is art recognized functionally equivalent protease resulting a polypeptide fragment for mass spectrometry peptide sequencing. The motivation to use different proteases is provided by Tremblay et al. who teach the usefulness of

having many choices of protease such as "chymotrypsin, trypsin, subtilisin" because the susceptibility of a protease digestion often altered by the interaction with ligands. Thus, the claimed invention as a whole was *prima facie* obvious over the combined teachings of the prior art.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 7 of copending Application No. 10/539,217. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of method steps overlaps for mapping a site (or the location) of post-translational modification on a post-translationally modified polypeptide as recited in the preamble of both applications. The "determining said site of post-translational modification" in the instant Claims 1-7 also

overlaps with a scope of "ascertain said location of said post-translational modification in the co-pending application No. 10/539,217. The limitation of "serine endopeptidase" encompasses the instant limitation of "subtilisin" in Claim 7. Thus, methods disclosed in Claims 1 and 7 of copending Application No. 10/539,217 overlaps the scope of instant Claims 1 and 7.

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

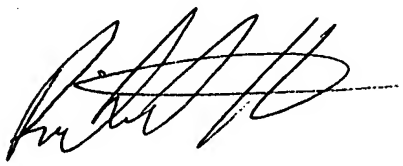
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Kim whose telephone number is (571) 272-5266. The examiner can normally be reached on 11AM-7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr Bragdon can be reached on (571) 272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander Kim
31 January 2008



RICHARD HUTSON, PH.D.
PRIMARY EXAMINER

Notice to Comply	Application No.	Applicant(s)	
	10/524,608	SHOKAT ET AL.	
	Examiner	Art Unit	
	Alexander D. Kim	1656	

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☒ 7. Other: Figures 1, 2, 7 and 8 teach an amino acid or nucleic acid sequence. Labeling using a SEQ ID No. must be inserted into the brief description of the drawings or into the Figure directly. The instant specification disclose amino acid sequences (i.e., Phe-Arg-Pro-Xxx-Gly-Phe on page 42, line 14; and Ala-Ala-Pro-Xxx on page 42, line 20), which require appropriate SEQ ID NOs.

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (571) 272-2510 or (571) 272-2533
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